

Appl. No. : 10/669,951
Filed : September 24, 2003

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An implantable stabilizing device for stabilizing two adjacent vertebral bodies in the human spine comprising:

an elongated body having a longitudinal axis and a transverse axis;

a first bone cutting surface on the elongated body offset from the longitudinal axis;

a second bone cutting surface on the elongated body offset from the longitudinal axis;

wherein the first bone cutting surface faces in a first direction, and the second bone cutting surface faces in a second direction; and

~~wherein at least one of the first bone cutting surface and the second bone cutting surface is adapted to cut bone upon rotation of the body about its longitudinal axis between two adjacent vertebral bodies;~~

wherein said first and second bone cutting surfaces comprise a leading edge adapted for straight cutting as the implantable stabilizing device is advanced between adjacent vertebrae;

wherein said first and second bone cutting surfaces comprise a horizontal edge adapted for rotational cutting as the implantable stabilizing device is rotated between said adjacent vertebrae; and

wherein a width between the first bone cutting surface and the second bone cutting surface is adapted to hold harvested bone.

2. (Original) The implantable stabilizing device of Claim 1, wherein at least one of the first bone cutting surface and the second bone cutting surface is a blade.

3. (Original) The implantable stabilizing device of Claim 1, wherein at least one of the first bone cutting surface and the second bone cutting surface and the elongated body comprises one or more perforations, holes, or voids.

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4. (Original) The implantable stabilizing device of Claim 1, wherein at least one of the first bone cutting surface, the second bone cutting surface and the elongated body is at least partially porous.

5. (Original) The implantable stabilizing device of Claim 1, wherein at least a portion of the elongated body is hollow.

6. (Original) The implantable stabilizing device of Claim 1, wherein at least one of the first bone cutting surface and the second bone cutting surface comprises one or more teeth.

7. (Original) The implantable stabilizing device of Claim 1, wherein at least one of the first bone cutting surface and the second bone cutting surface is curved inward relative to the elongated body.

8. (Original) The implantable stabilizing device of Claim 1, wherein a portion of at least one of the first bone cutting surface and the second bone cutting surface is sharpened.

9. (Original) The implantable stabilizing device of Claim 1, wherein a portion of at least one of the first bone cutting surface, the second bone cutting surface and the elongated body comprises a protrusion.

10. (Original) The implantable stabilizing device of Claim 9, wherein said protrusion is selected from the group consisting of barbs, spikes and wedges.

11. (Original) The implantable stabilizing device of Claim 1, wherein a portion of at least one of the first bone cutting surface, the second bone cutting surface and the elongated body comprises a shearing means.

12. (Original) The implantable stabilizing device of Claim 1, wherein a portion of at least one of the first bone cutting surface, the second bone cutting surface and the elongated body comprises is treated with a surface treatment.

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13. (Original) The implantable stabilizing device of Claim 12, wherein said surface treatment comprises bone growth facilitator.

14. (Original) The implantable stabilizing device of Claim 12, wherein said surface treatment comprises one or more adhesives.

15. (Original) The implantable stabilizing device of Claim 14, wherein said adhesive is cyanoacrylate.

16. (Original) The implantable stabilizing device of Claim 1, wherein a portion of at least one of the first bone cutting surface, the second bone cutting surface and the elongated body is constructed from one or more materials selected from the group consisting of: titanium, steel, plastic and ceramic.

17. (Original) The implantable stabilizing device of Claim 1, further comprising a source of bone growth facilitator.

18. (Original) An implantable device for stabilizing a joint comprising:

a first bone cutting surface and a second bone cutting surface connected by a support member;

wherein said first bone cutting surface comprises a first leading edge, a first trailing edge, a first top edge and a first bottom edge; and

wherein said second bone cutting surface comprises a second leading edge, a second trailing edge, a second top edge and a second bottom edge.

19. (Original) The implantable device of Claim 18, wherein the support member comprises a length that is mounted perpendicular to the first bone cutting surface and the second bone cutting surface and is spaced from said first bone cutting surface and second bone cutting surface by a distance in the range of about 1 cm to about 5 cm.

20. (Original) The implantable device of Claim 18, wherein at least one of the first bone cutting surface and the second bone cutting surface is adapted to accept a local bone autograft.

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21. (Original) The implantable device of Claim 18, wherein at least one of the first bone cutting surface and the second bone cutting surface is curved inward relative to the support member.

22. (Original) The implantable device of Claim 18, wherein at least a portion of an edge selected from the group consisting of one or more of the following: first leading edge, the first trailing edge, the first top edge, the first bottom edge, the second leading edge, the second trailing edge, the second top edge and the second bottom edge is sharpened.

23. (Original) The implantable device of Claim 18, wherein at least a portion of an edge selected from the group consisting of one or more of the following: first leading edge, the first trailing edge, the first top edge, the first bottom edge, the second leading edge, the second trailing edge, the second top edge and the second bottom edge is blunt.

24. (Original) The implantable device of Claim 18, wherein the joint is a spinal joint.

25. (Original) The implantable device of Claim 18, wherein the joint is selected from one or more joints located in the group consisting of the shoulder, wrist, ankle, knee, hip, and digits.

26. (Canceled)

27. (Original) A method of initiating bony fusion between a first bone and a second bone, comprising:

providing an implant having a body with a longitudinal axis, and at least a first bone cutter and a second bone cutter offset in opposite transverse directions from the longitudinal axis;

introducing the implant in between the first and second bones;

rotating the implant about its longitudinal axis so that the first and second bone cutters cut fragments from the first and second bones; and

leaving the implant in position between the first and second bones.

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28. (Original) A method of initiating bony fusion as in Claim 27, wherein the first and second bones comprise adjacent vertebral bodies.

29. (Original) A method of initiating bony fusion as in Claim 27, wherein at least one of the first and second vertebral bodies is in the sacral spine.

30. (Original) A method of initiating bony fusion as in Claim 27, wherein at least one of the first and second vertebral bodies is in the lumbar spine.

31. (Original) A method of initiating bony fusion as in Claim 27, wherein at least one of the first and second vertebral bodies is in the cervical spine.

32. (Original) A method of initiating bony fusion as in Claim 27, wherein the rotating step comprises rotating the implant through no more than one revolution.

33. (Original) A method of initiating bony fusion as in Claim 27, wherein the rotating step comprises rotating the implant through no more than about 120 degrees.

34. (Original) A method of initiating bony fusion as in Claim 27, additionally comprising the step of infusing a bone growth facilitator through at least a portion of the implant.

35. (Original) A method of initiating bony fusion as in Claim 27, additionally comprising the step of introducing a second implant in between the first and second bones.

36. (Original) A method of initiating bony fusion as in Claim 27, comprising stopping the rotating step at a point where the first bone cutter is in contact with the first bone and the second bone cutter is in contact with the second bone.

37. (Original) A method of stabilizing two adjacent vertebral bodies comprising:
providing a stabilizing device having a first bone cutting surface and a second bone cutting surface connected by a support member, wherein said bone cutting surfaces comprise a leading edge, a trailing edge, a top horizontal edge and a bottom horizontal edge;

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orienting the stabilizing device such that the bone cutting surface are perpendicular to the endplates of said vertebral bodies and the support member is parallel to said endplates;

inserting the stabilizing device into and across the endplates such that at least a portion of at least one of the endplates is lodged between the bone cutting surface; and

rotating the stabilizing device such that at least one of the endplates is translocated perpendicular to its original location.

38. (Original) A method of promoting bony fusion between a first bone and a second bone, comprising:

providing one or more implants having a body with a longitudinal axis, and at least a first shearing means and a second shearing means offset in opposite transverse directions from the longitudinal axis;

introducing said one or more implants in between the first and second bones;

rotating said one or more implants about its longitudinal axis so that the first and second shearing means shear one or more fragments from the first and second bones; and

leaving said one or more implants in position between the first and second bones.